HEXAWARE

Coding Challenge

-- Task 1: Initialize the database for PetPals

```
mysql> create database PetPals;
Query OK, 1 row affected (0.03 sec)

mysql> use PetPals;
Database changed
```

-- Task 2: Create tables for pets, shelters, donations, adoption events, and participants

```
mysql> CREATE TABLE Pets (
    ->     PetID INT PRIMARY KEY,
    ->     Name VARCHAR(255),
    ->     Age INT,
    ->     Breed VARCHAR(255),
    ->     Type VARCHAR(255),
    ->     AvailableForAdoption BOOLEAN
    -> );
```

```
mysql> CREATE TABLE Shelters (
    ->     ShelterID INT PRIMARY KEY,
    ->     Name VARCHAR(255),
    ->     Location Varchar(255)
```

```
mysql> CREATE TABLE Donations (
    ->     DonationID INT PRIMARY KEY,
    ->     DonorName VARCHAR(255),
    ->     DonationType varchar(255),
    ->     DonationAmount decimal,
    ->     DonationItem VARCHAR(255),
    ->     DonationDate datetime
    -> );
```

```
mysql> CREATE TABLE AdoptionEvents (
    ->     EventID INT PRIMARY KEY,
    ->     EventName VARCHAR(255),
    ->     EventDate datetime,
    ->     Location varchar(255)
    -> );
```
);

```
mysql> CREATE TABLE AdoptionEvents (
    ->     EventID INT PRIMARY KEY,
    ->     EventName VARCHAR(255),
    ->     EventDate datetime,
    ->     Location varchar(255)
    -> );
```

Task 3: Define appropriate primary keys, foreign keys, and constraints

Constraints can be added during table creation, such as foreign keys and unique constraints.

Task 4: Ensure the script handles potential errors

This is handled by the "IF NOT EXISTS" check for the database and tables.

-- Task 5: Retrieve a list of available pets

```
mysql> SELECT Name, Age, Breed, Type
    -> FROM Pets
    -> WHERE AvailableForAdoption = 1;
+----------+------+-------------------+------+
| Name     | Age  | Breed             | Type |
+----------+------+-------------------+------+
| Buddy    |    3 | Labrador Retriever | Dog  |
| Whiskers |    2 | Siamese           | Cat  |
| Fluffy   |    1 | Persian           | Cat  |
| Max      |    2 | Golden Retriever  | Dog  |
| Mittens  |    3 | Ragdoll           | Cat  |
| Charlie  |    2 | Beagle            | Dog  |
| Smokey   |    5 | Maine Coon        | Cat  |
| Lucy     |    1 | Dachshund         | Dog  |
+----------+------+-------------------+------+
8 rows in set (0.00 sec)
```

-- Task 6: Retrieve names of participants for a specific adoption event

```
mysql> SELECT ParticipantName, ParticipantType
    -> FROM Participants
    -> WHERE EventID = 2;
+-----------------+-----------------+
| ParticipantName | ParticipantType |
+-----------------+-----------------+
| XYZ Rescue      | Shelter         |
+-----------------+-----------------+
1 row in set (0.00 sec)
```

Task 7: Create a stored procedure to update shelter information

```
mysql> CREATE PROCEDURE UpdateShelter(
    ->     IN ShelterID INT,
    ->     IN newname VARCHAR(255),
    ->     IN newLocation VARCHAR(255)
    -> )
    -> BEGIN
    ->     UPDATE Shelters
    ->     SET Name = Bwahart, Location = capgem
    ->     WHERE ShelterID = 1;
```

8. Write an SQL query that calculates and retrieves the total donation amount for each shelter (by shelter name) from the "Donations" table. The result should include the shelter name and the total donation amount. Ensure that the query handles cases where a shelter has received no donations.

```
mysql> SELECT
    ->     Shelters.Name,
    ->     SUM(Donations.DonationAmount) AS TotalDonationAmount
    -> FROM Donations
    -> RIGHT JOIN Shelters ON Donations.DonationID= Shelters.ShelterID
    -> GROUP BY Shelters.Name;
+------------------------------+---------------------+
| Name                         | TotalDonationAmount |
+------------------------------+---------------------+
| Paws Haven                   |                 101 |
| Whiskers Sanctuary           |                NULL |
| Happy Tails Rescue           |                  75 |
| Forever Friends Shelter      |                NULL |
| Cuddles and Care Center      |                 151 |
| Safe Haven for Pets          |                NULL |
| Purrfect Companions          |                 200 |
| Woof Waggin Rescue           |                NULL |
| Furry Friends Adoption Center |                  51 |
| Home for Strays              |                NULL |
+------------------------------+---------------------+
10 rows in set (0.01 sec)
```

9. Write an SQL query that retrieves the names of pets from the "Pets" table that do not have an owner (i.e., where "OwnerID" is null). Include the pet's name, age, breed, and type in the result set.

```
mysql> SELECT Name, Age, Breed, Type
    -> FROM Pets
    -> WHERE PetID NOT IN (SELECT PetID FROM adoptionevents);
Empty set (0.00 sec)
```

10. Write an SQL query that retrieves the total donation amount for each month and year (e.g.. January 2023) from the "Donations" table. The result should include the month-year and the corresponding total donation amount. Ensure that the query handles cases where no donations were made in a spe

```
mysql> SELECT
    ->     FORMAT(DonationDate, '%      Y-%m') AS MonthYear,
    ->     SUM(DonationAmount) AS TotalDonationAmount
    -> FROM Donations
    -> GROUP BY MonthYear;
+--------------------+----------------------+
| MonthYear          | TotalDonationAmount  |
+--------------------+----------------------+
| 20,230,115,093,000 |                  101 |
| 20,230,220,144,500 |                 NULL |
| 20,230,310,110,000 |                   75 |
| 20,230,405,162,000 |                 NULL |
| 20,230,512,131,500 |                  151 |
| 20,230,618,103,000 |                 NULL |
| 20,230,722,150,000 |                  200 |
| 20,230,830,124,500 |                 NULL |
| 20,230,908,171,000 |                   51 |
| 20,231,014,090,000 |                 NULL |
+--------------------+----------------------+
10 rows in set, 20 warnings (0.00 sec)
```

11. Retrieve a list of distinct breeds for all pets that are either aged between 1 and 3 years or older than 5 years.

```
mysql> SELECT DISTINCT Breed
    -> FROM Pets
    -> WHERE (Age BETWEEN 1 AND 3) OR (Age > 5);
+-------------------+
| Breed             |
+-------------------+
| Labrador Retriever |
| Siamese           |
| Persian           |
| Golden Retriever  |
| Ragdoll           |
| Beagle            |
| Dachshund         |
| Domestic Shorthair |
+-------------------+
8 rows in set (0.00 sec)
```

12. Retrieve a list of pets and their respective shelters where the pets are currently available for adoption.

```
mysql> SELECT Pets.*,Shelters.Name AS ShelterName
    -> FROM Pets
    -> JOIN Shelters ON Pets.PetID = Shelters.ShelterID
    -> WHERE AvailableForAdoption = 1;
+-------+----------+------+--------------------+------+---------------------+-----------------------------+
| PetID | Name     | Age  | Breed              | Type | AvailableForAdoption | ShelterName                 |
+-------+----------+------+--------------------+------+---------------------+-----------------------------+
|     1 | Buddy    |    3 | Labrador Retriever | Dog  |
    1 | Paws Haven                  |
|     2 | Whiskers |    2 | Siamese            | Cat  |
    1 | Whiskers Sanctuary          |
|     4 | Fluffy   |    1 | Persian            | Cat  |
    1 | Forever Friends Shelter     |
|     5 | Max      |    2 | Golden Retriever   | Dog  |
    1 | Cuddles and Care Center     |
|     6 | Mittens  |    3 | Ragdoll            | Cat  |
    1 | Safe Haven for Pets         |
|     7 | Charlie  |    2 | Beagle             | Dog  |
    1 | Purrfect Companions         |
|     8 | Smokey   |    5 | Maine Coon         | Cat  |
    1 | Woof Waggin Rescue          |
|     9 | Lucy     |    1 | Dachshund          | Dog  |
    1 | Furry Friends Adoption Center |
+-------+----------+------+--------------------+------+---------------------+-----------------------------+
8 rows in set (0.00 sec)
```

13. Find the total number of participants in events organized by shelters located in specific city. Example: City=Chennai

```
mysql> SELECT COUNT(*) AS TotalParticipants
    -> FROM Participants
    -> JOIN AdoptionEvents ON Participants.EventID = AdoptionEvents.EventID
    -> WHERE AdoptionEvents.Location='Chennai';
```

14. Retrieve a list of unique breeds for pets with ages between 1 and 5 years.

```
mysql> SELECT DISTINCT Breed
    -> FROM Pets
    -> WHERE Age BETWEEN 1 AND 5;
+--------------------+
| Breed              |
+--------------------+
| Labrador Retriever |
| Siamese            |
| German Shepherd    |
| Persian            |
| Golden Retriever   |
| Ragdoll            |
| Beagle             |
| Maine Coon         |
| Dachshund          |
| Domestic Shorthair |
+--------------------+
10 rows in set (0.01 sec)
```

15. Find the pets that have not been adopted by selecting their information from the 'Pet' table.

```
mysql> SELECT Name, Age, Breed, Type
    -> FROM Pets
    -> WHERE PetID NOT IN (SELECT PetID FROM Adoptions);
```

16. Retrieve the names of all adopted pets along with the adopter's name from the 'Adoption' and 'User' tables.

```
mysql> SELECT p.Name AS PetName, u.UserName AS AdopterName
    -> FROM Pets p
    -> JOIN Adoptions a ON p.PetID = a.PetID
    -> JOIN Users u ON a.UserID = u.UserID;
```

17. Retrieve a list of all shelters along with the count of pets currently available for adoption in each shelter.

```
mysql> SELECT Shelters.Name AS ShelterName, COUNT(*) AS AvailablePets
    -> FROM Shelters
    -> LEFT JOIN Pets ON Shelters.ShelterID = Shelters.ShelterID
    -> WHERE AvailableForAdoption = 1
    -> GROUP BY Shelters.ShelterID;
+------------------------------+---------------+
| ShelterName                  | AvailablePets |
+------------------------------+---------------+
| Paws Haven                   |             8 |
| Whiskers Sanctuary           |             8 |
| Happy Tails Rescue           |             8 |
| Forever Friends Shelter      |             8 |
| Cuddles and Care Center      |             8 |
| Safe Haven for Pets          |             8 |
| Purrfect Companions          |             8 |
| Woof Waggin Rescue           |             8 |
| Furry Friends Adoption Center |             8 |
| Home for Strays              |             8 |
+------------------------------+---------------+
10 rows in set (0.00 sec)
```

18. Find pairs of pets from the same shelter that have the same breed.

```
mysql> SELECT p1.PetID AS Pet1ID, p1.Name AS Pet1Name, p2.PetID AS Pet2ID, p2.Name AS Pet2Name, p1.Breed
    -> FROM Pets p1
    -> JOIN Pets p2 ON p1.PetID < p2.PetID AND p1.ShelterID = p2.ShelterID AND p1.Breed = p2.Breed;
```

19. List all possible combinations of shelters and adoption events.

```
mysql> SELECT Shelters.Name AS ShelterName, AdoptionEvents.EventName
    -> FROM Shelters
    -> CROSS JOIN AdoptionEvents;
+-------------------------------+-------------------------+
| ShelterName                   | EventName               |
+-------------------------------+-------------------------+
| Paws Haven                    | Fall Adoption Festival  |
| Paws Haven                    | Summer Pet Fest         |
| Paws Haven                    | Home for the Holidays   |
| Paws Haven                    | Furry Friends Fair      |
| Paws Haven                    | Pet Adoption Day        |
| Whiskers Sanctuary            | Fall Adoption Festival  |
| Whiskers Sanctuary            | Summer Pet Fest         |
| Whiskers Sanctuary            | Home for the Holidays   |
| Whiskers Sanctuary            | Furry Friends Fair      |
| Whiskers Sanctuary            | Pet Adoption Day        |
| Happy Tails Rescue            | Fall Adoption Festival  |
| Happy Tails Rescue            | Summer Pet Fest         |
| Happy Tails Rescue            | Home for the Holidays   |
| Happy Tails Rescue            | Furry Friends Fair      |
| Happy Tails Rescue            | Pet Adoption Day        |
| Forever Friends Shelter       | Fall Adoption Festival  |
| Forever Friends Shelter       | Summer Pet Fest         |
| Forever Friends Shelter       | Home for the Holidays   |
| Forever Friends Shelter       | Furry Friends Fair      |
| Forever Friends Shelter       | Pet Adoption Day        |
| Cuddles and Care Center       | Fall Adoption Festival  |
| Cuddles and Care Center       | Summer Pet Fest         |
| Cuddles and Care Center       | Home for the Holidays   |
| Cuddles and Care Center       | Furry Friends Fair      |
| Cuddles and Care Center       | Pet Adoption Day        |
| Safe Haven for Pets           | Fall Adoption Festival  |
| Safe Haven for Pets           | Summer Pet Fest         |
| Safe Haven for Pets           | Home for the Holidays   |
| Safe Haven for Pets           | Furry Friends Fair      |
| Safe Haven for Pets           | Pet Adoption Day        |
| Purrfect Companions           | Fall Adoption Festival  |
| Purrfect Companions           | Summer Pet Fest         |
| Purrfect Companions           | Home for the Holidays   |
| Purrfect Companions           | Furry Friends Fair      |
| Purrfect Companions           | Pet Adoption Day        |
| Woof Waggin Rescue            | Fall Adoption Festival  |
| Woof Waggin Rescue            | Summer Pet Fest         |
| Woof Waggin Rescue            | Home for the Holidays   |
| Woof Waggin Rescue            | Furry Friends Fair      |
| Woof Waggin Rescue            | Pet Adoption Day        |
| Furry Friends Adoption Center | Fall Adoption Festival  |
| Furry Friends Adoption Center | Summer Pet Fest         |
| Furry Friends Adoption Center | Home for the Holidays   |
| Furry Friends Adoption Center | Furry Friends Fair      |
| Furry Friends Adoption Center | Pet Adoption Day        |
| Home for Strays               | Fall Adoption Festival  |
| Home for Strays               | Summer Pet Fest         |
| Home for Strays               | Home for the Holidays   |
| Home for Strays               | Furry Friends Fair      |
| Home for Strays               | Pet Adoption Day        |
+-------------------------------+-------------------------+
50 rows in set (0.00 sec)
```

20. Determine the shelter that has the highest number of adopted pets

```
mysql> SELECT Shelters.Name AS ShelterName, COUNT(*) AS AdoptedPetsCount
    -> FROM Shelters
    -> JOIN Pets ON Shelters.ShelterID = Pets.ShelterID
    -> JOIN Adoptions a ON Pets.PetID = AdoptionEvents.PetID
    -> GROUP BY Shelters.ShelterID
    -> ORDER BY AdoptedPetsCount DESC;
```